

**WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS PATENT**  
**OF THE UNITED STATES IS:**

1. An initialization method comprising:

initializing a phase change optical recording medium with  
5 a laser beam with a power density of from 15 to 22 mW/ $\mu\text{m}^2$  at  
a linear velocity of from 8 to 12 m/s to initialize the phase  
change optical recording medium, wherein the phase change  
optical recording medium comprises:

a transparent substrate having a guide groove on the  
10 surface thereof;

a first protective layer which is overlaid on the  
transparent substrate;

a recording layer which is overlaid on the first  
protective layer and which essentially consists of a material  
15 which is represented by the following composition formula:  
 $\text{Ag}\alpha\text{X}\beta\text{Sb}\delta\text{Te}\epsilon\text{Ge}\gamma$ , wherein X is at least one element selected from  
the group of Ga, In, Tl, Pb, Sn, Bi, Cd, Hg, Mn, Dy, Cu and  
Au, and  $\alpha$ ,  $\beta$ ,  $\delta$ ,  $\epsilon$ , and  $\gamma$  have units of atomic % and satisfy  
the following relationships:

20 when  $\alpha = \beta = 0$ ;

$$\delta + \epsilon + \gamma = 100;$$

$$60 \leq \delta \leq 80;$$

$$0 \leq \epsilon \leq 30, \text{ and}$$

$$1 \leq \gamma \leq 10, \text{ and}$$

25 when at least one of  $\alpha$  and  $\beta$  is greater than 0;

$$\alpha + \beta + \delta + \epsilon + \gamma = 100,$$

$$5 \leq \alpha + \beta + \gamma \leq 9,$$

$$\begin{aligned}
0 &\leq \alpha \leq 2, \\
0 &\leq \beta \leq 8, \\
60 &\leq \delta \leq 80, \\
0 &\leq \varepsilon \leq 30, \text{ and} \\
1 &\leq \gamma < 9; \text{ and}
\end{aligned}$$

a second protective layer which is overlaid on the recording a layer; and

a reflective layer which is overlaid on the second protective layer.

2. The initialization method according to Claim 1, wherein the recording layer has a thickness of from 8 to 20 nm.

3. The initialization method according to Claim 1, wherein the phase change optical recording medium further comprises an oxide layer which comprises at least  $\text{ZrO}_2$  and which is located in at least one of a position between the recording layer and the first protective layer and a position between the recording layer and the second protective layer.

4. The initialization method according to Claim 3, wherein the oxide layer comprises  $\text{ZrO}_2$  as a main component.

5. The initialization method according to Claim 3, wherein the oxide layer comprises a titanium oxide.

6. The initialization method according to Claim 5,

wherein the content of the titanium oxide is not greater than 60 mole % based on a total amount of materials included in the oxide layer.

5           7. The initialization method according to Claim 3, wherein the oxide layer further comprises at least one of a rare earth oxide and an oxide of a group IIa element exclusive of Be.

10           8. The initialization method according to Claim 7, wherein a content of said at least one of the rare earth oxide and the oxide of a group IIa element exclusive of Be ranges from 1 to 10 mole % based on  $\text{ZrO}_2$ .

15           9. The initialization method according to Claim 3, wherein the oxide layer has a thickness of from 1 to 20 nm.

          10. The initialization method according to Claim 1, wherein the irradiation is performed while the laser beam forms  
20 a spot having an area not greater than  $200 \mu\text{m}^2$  on a surface of the recording layer, and wherein a light source of the irradiation laser beam has an output power of from 0.7 to 2.5 W.

25           11. The initialization method according to Claim 1, wherein the linear velocity is in a range within + or -2 m/s of a crystallization limit speed of the recording layer.

12. The initialization method according to Claim 1,  
wherein the irradiation is performed while the laser beam forms  
an oval-shaped spot, wherein the following relationship is  
5 satisfied:  $d/n \leq pf \leq d(n-1)/n$ ,

wherein  $pf$  represents a feeding pitch of the laser beam,  
 $d$  represents a half width diameter of the oval-shaped spot in  
a longitudinal direction, and  $n$  is an integer of from 2 to 5,  
and wherein there is no portion in the recording layer which  
10 is subject to irradiation multiple times.